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EDITORIAL

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1. Introduction

Firms increasingly rely on alliances, joint ventures and other collaboration agreements to develop their innovation activities (Bogers et al. 2017). The evidence that accessing external knowledge sources has enabled many firms to improve their performance (Lahiri and Narayanan 2013; Laursen and Salter 2006; Sampson 2007) paved the way towards an open innovation paradigm. However, evidence also shows us that the benefits from external knowledge sources vary considerably across firms. This heterogeneity is explained by the fact that the value that firms can draw from external knowledge is not only dependent on external and contextual factors, but also on a variety of internal, firm-specific factors. In fact, various studies document substantial heterogeneity in the abilities of firms to reap the benefits from external knowledge sources (e.g. Cassiman and Veugelers 2006; Kale and Singh 2007; Keil et al. 2008; Lahiri and Narayanan 2013; Rothaermel and Deeds 2006). In particular, these studies have given attention to particular investment and strategic decisions that firms make in order to improve their capabilities to internalise external knowledge. Examples are the creation of dedicated alliances departments or other less formalised mechanisms aimed at stimulating interdependencies between external and internal technology investments (Antonelli and Colombelli 2015; Heimeriks, Duysters and Vanhaverbeke, 2007; Noseleit and de Faria 2013; Wuyts and Dutta 2014) and the strategic use of knowledge protection mechanisms, like patents and secrecy (Hannah 2005; James, Leiblein, and Lu 2013; Sofka, de Faria, and Shehu 2018).

Despite providing us with a good understanding of how firms use certain mechanisms to benefit from open innovation strategies, current research provides only limited insights into how barriers internal to the firm may hamper knowledge transfer and limit effective utilisation of external knowledge sources. While a considerable body of research addresses a broad array of internal barriers to knowledge dissemination (e.g. Karim 2009; Karim and Kaul 2014; Tortoriello, Reagans, and McEvily 2011; Tsai 2001), this work is only partially integrated in the literature on open innovation and external knowledge sourcing (e.g., Keil et al. 2008; Lahiri and Narayanan 2013; Faems et al. 2019).

2. Overview of the special issue

This special issue aims at reflecting on how internal barriers may affect open innovation and external knowledge search processes. By identifying the resistance of internal actors to external knowledge as an important internal barrier to external knowledge integration, the literature addressing the not-invented-here syndrome (Clagett 1967; Katz and Allen 1982; Agrawal, Cockburn, and Rosell 2010) already provide us essential insights on how internal barriers might hamper the integration of external knowledge. Despite acknowledging its relevance, we claim that this literature provides only an incomplete picture,

since internal barriers are not limited to not-invented-here syndrome related processes. That is, there is a need for a more detailed conceptualisation and investigation of organisational characteristics and practices that may act as internal barriers to external knowledge sourcing. With this special issue we want to stimulate this discussion in two ways. First, by looking at how the way firms structure their internal (innovation) activities may (unintentionally) create barriers to the incorporation of external knowledge. Second, by reflecting on how internal barriers might be coupled to firm decisions aimed at the optimisation of innovation processes, like the balance between exploration and exploitation strategies. We are confident that the diverse set of papers that constitutes this special issue contributes to these discussions.

In the first paper of this special issue, Kim and Ahn (2019) use the open innovation framework to investigate how particular organisational dimensions influence a firm's ability to take advantage of external knowledge. They build on the assumption that firms, in order to effectively make use of external knowledge, need to adapt their traditional innovation routines and incorporate openness in their innovation processes. More specifically, the authors address how the implementation of knowledge management, incentive systems and knowledge appropriation mechanisms are linked to the open innovation processes of Korean SMEs. The results show that systematic knowledge management is an essential facilitator of external knowledge integration and that entrepreneurial orientation – despite being undervalued by SMEs – also plays an important role in open innovation processes. Moreover, they find that the optimal configuration of mechanisms is dependent on the degree of openness, a result that highlights the need to question the implementation of 'one size fits all' open innovation strategies for SMEs.

Moraes Silva, Lucas, and Vonortas (2019), in the second paper of this special issue, take a different viewpoint on how organisational dimensions of SMEs are interrelated with external knowledge sourcing. They investigate how internal innovation barriers influence the decision of SMEs to search for external knowledge via collaboration agreements with universities and research institutes. The results provide evidence that both, the perception of financial and knowledge obstacles, lead firms to rely on universities and research institutes for their innovation activities. These findings highlight the idea that internal barriers not only influence the success of innovation activities directly, but may also impact the way SMEs structure their innovation activities and search for external knowledge.

In the third paper of this special issue, Mahdad et al. (2019) look at the stage that follows a firm's decision to collaborate with universities and investigate how firms adapt their activities to this particular type of open innovation activity. By means of a case study focused on the cooperation activities between an Italian telecommunication company and five universities, the authors investigate how the firm deploys adaptive capacities to address the challenges associated to the organisational and cultural changes driven by open innovation. The results suggest that multiplexity of relationships can help organisations to build trust and optimise their interactions with partners that are organisationally and culturally distant. Moreover, they find that task redundancy and loose coupling facilitate collaboration and, consequently, knowledge sharing. This study brings new insights to our understanding of how organisations adapt to collaboration activities and optimise their use of external knowledge.

Finally, in the paper that closes this special issue, Xie et al. (2019) investigate how collaboration influences the degree to which a sample of Chinese firms is able to

effectively combine explorative and exploitative innovation activities. They find that the positive effect of collaboration on ambidextrous innovation is driven to a larger extent by internal knowledge acquisition than by external knowledge acquisition. This study highlights how internal knowledge processes play a crucial role on the utilisation of knowledge from external parties and how innovation performance is heavily dependent on how firms balance internal and external processes.

In sum, the four studies that constitute this special issue bring us four complementary perspectives on collaboration and open innovation processes. They stress the challenges that firms face when dealing with collaboration partners and help us reflect on how internal barriers and processes are deeply interconnected with external knowledge acquisition. What is more, they reflect on how collaboration might, on the one hand, be a source of additional resources that help firms' to develop innovation activities but, on the other hand, might also bring additional challenges that require organisational adaptation.

3. Open innovation and internal barriers: a need for a dynamic perspective

West, Vanhaverbeke, and Chesbrough (2006) and more recently Salter, Criscuolo, and Ter Wal (2014) have stressed the need to expand our understanding of how open innovation is often hampered by internal barriers. This special issue contributes to this debate by highlighting the dynamic nature of the challenges that firms face when dealing with internal barriers that affect their external knowledge search and knowledge sourcing. Moreover, this reflection allows us to propose some interesting avenues for future research relating open innovation to internal barriers. First, the papers in this special issue give indication that organisations are heterogeneous in the degree to which they face internal barriers and how they deal with those barriers. We believe that future open innovation studies should explore this heterogeneity since it can have important consequences for external knowledge sourcing. In particular, it is important to understand how organisational structural factors and management practices influence the way firms define internal knowledge processes that might generate and mitigate internal barriers to external knowledge sourcing. Second, besides organisational level factors, the type of knowledge that is exchanged with external parties might also influence how internal barriers affect open innovation processes. Therefore, we encourage researchers to explore how the effect of internal barriers on knowledge sourcing varies with the cognitive and technological distance between external knowledge and the internal knowledge base of a firm. Moreover, future studies should also investigate which organisational strategies allow firms to deal effectively with internal barriers in cognitive and technological diverse contexts. Third, while existing research has been able to identify what may constitute internal barriers to open innovation, there is still limited understanding of the mechanisms linking these barriers to external knowledge acquisition and utilisation. In particular, future studies should investigate how internal barriers guide knowledge search and influence sorting and matching processes of collaboration partners. In sum, we believe that this collection of papers has moved the discussion further and provides a good basis for scholars to advance our knowledge on how intra-organisational barriers influence external knowledge utilisation in open innovation settings.

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